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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,114	02/05/2002	Dan Kikinis	007287.00034	4131

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EXAMINER

VU, NGOC K

ART UNIT	PAPER NUMBER
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2623

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03/04/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/072,114

Applicant(s)

KIKINIS ET AL.

Examiner

Ngoc K. Vu

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7-10,12,13,17,21-24,26-29,31 and 39-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7-10,12,13,17,21-24,26-29,31 and 39-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/31/2007 has been entered.

Response to Arguments

2. Applicant's arguments filed 10/31/2007 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 31 and 45-47 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows.

Claims 31 and 45-47 are drawn to functional descriptive material encoded on a computer readable medium. Normally, the claim would be statutory. However, the specification, at pages 20-21, paragraph 0048 defines the claimed computer readable medium as encompassing statutory media such as a "diskette, DC-ROM, magnetic tape, DVD, ROM, flash memory" as well as ***non-statutory*** subject matter such as a "...series of instructions need not be stored locally, and could be stored on a propagated data signal..." (Emphasis added).

A "signal" embodying functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101. Rather, "signal" is a form of energy, in the absence of any physical structure or tangible

material. Because the full scope of the claim as properly read in light of the disclosure encompasses non-statutory subject matter, the claim as a whole is non-statutory. The examiner suggests amending the specification to exclude the intangible media such as data signal defined in the specification.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 17, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo et al. (US 6,870,573 B2) in view of Sundqvist et al. (US 6,549,669 B1).

Regarding claim 1, Yeo teaches a method of providing an electronic programming guide (EPG) (see figure 6) comprising: providing a plurality of individual image areas in an EPG display (presents in rows as shown in figure 6); receiving a user selection corresponding to a selected channel and a first to display in one of the individual image areas (e.g., when a user selects a particular row corresponding to a particular channel - see col. 8, lines 28-30); capturing a plurality of snapshots snapshot from the video stream (capturing video frames - col. 5, lines 52-55; col. 6, lines 13-17); identifying a most presentable snapshot from the plurality of snapshots captured from the video stream (determining which video frames should be presented in a visual program summary - see col. 8, lines 6-25); converting the most presentable snapshot captured into a reduced video image of real-time programming (see col. 7, line 65 to col. 8, line 5; col. 8, lines 17-25); and displaying the reduced video image of real-

time programming in the first of the individual image areas, wherein the reduced video image is associated with the selected channel (as shown in figure 6; col. 8, lines 17-23 and 28-32).

Yeo discloses selecting a channel (see col. 8, lines 28-32), but does not explicitly disclose detecting a scene change in the video stream of a channel/program. However Sundqvist discloses analyzing the received video data to determine a scene change, for example, from scene A to scene B to further exchange video data with a memory to provide for smooth switching among multiple scenes in video (see col. 4, lines 30-57 and figure 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Yeo by detecting a scene change in a video stream of a program to exchange video data with a memory as disclosed by Sundqvist in order to provide for smooth switching among multiple scenes in video.

Regarding claim 17, Yeo teaches an image-oriented electronic programming guide (EPG) (see figure 6) apparatus comprising: a tuner (310 - figure 3) configured to tune to a selected channel to receive a video stream (see col. 8, lines 28-32; col. 5, lines 55-58); a shutter function (320 - figure 3) configured to capture a plurality snapshots from the video stream (capturing video frames - col. 5, lines 55-58; col. 6, lines 13-15); an image improver (330 - figure 3) configured to identify a most presentable snapshot from the plurality of snapshots captured from the video stream (determining which video frames should be presented in a visual program summary - see col. 8, lines 6-25); and a display (viewer's display) configured to display an EPG (as shown in figure 6), comprising rendering the most presentable snapshots in an individual image area (a particular row) associated with the selected channel (col. 8, lines 17-30).

Yeo does not explicitly disclose a scene detector to detect a scene change in the video stream. However Sundqvist discloses scene change detector 71 analyzes the received video data to determine a scene change, for example, from scene A to scene B to further exchange

video data with a memory to provide for smooth switching among multiple scenes in video (see col. 4, lines 30-57 and figure 7). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Yeo by detecting a scene change in a video stream to exchange video data with a memory as disclosed by Sundqvist in order to provide for smooth switching among multiple scenes in video.

Claim 31 recites similar limitations of claim 1, therefore, it is rejected for the same reasons.

7. Claims 7-9, 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over and further in view of Yeo et al. (US 6,870,573 B2) in view of Sundqvist et al. (US 6,549,669 B1) and further in view of Lin (US 7130864 B2).

Yeo teaches presenting the selected video frames or snapshots of the selected channel in a row as shown in figure 6 (see figure 6). Yeo does not explicitly teach comparing contrast levels, brightness levels, or color saturation levels among the snapshots and determining the most presentable snapshot when the most presentable snapshot has a best contrast, a median brightness, or a highest color saturation. However, Lin discloses a method and system for accessing a collection of images in a storage includes using a weighted quality metric to select the best images to the user, wherein the quality metric indicates the color, brightness, contrast of the image. See col. 4, lines 22-39. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Yeo by selecting the best images based on the quality metric included the color, brightness, and contrast as taught by Lin in order to provide the images with the highest quality for displaying.

8. Claims 10, 12, 13, 24, 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo et al. (US 6,870,573 B2) in view of Sundqvist et al. (US 6,549,669 B1) and further in view of Sendelweck (US 4,963,979 A).

With respect to claims 10, 12, 13, 24, 26, and 28, Yeo does not teach that the video image or snapshot is filtered to change the display characteristics of the snapshot, wherein the snapshot is filtered by one of enhancing or reducing a contrast to the snapshot, and wherein the snapshot is filtered by a one of enhancing or reducing a color saturation of the snapshot. However, Sendelweck teaches a processing image for displaying included filtering means to enhance the sharpness and color of the image (see col. 1, lines 62-68). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Yeo by having filtering means to enhance the sharpness and color of the images as taught by Sendelweck in order to provide the best quality of images for viewing.

With respect to claims 27 and 29, Yeo does not explicitly teach reducing the snapshot's contrast and the snapshot's color saturation. Official Notice is taken that reducing or adjusting contrast or color saturation of the image to improve the quality of image. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Yeo by adjusting or reducing the image's contrast and the image's color saturation in order to improve the quality of the images.

9. Claims 39-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yeo et al. (US 6,870,573 B2) in view of Sundqvist et al. (US 6,549,669 B1) and further in view of Humbard et al. (US 20020069415 A1).

Regarding claims 39, 40, 42, 43, 45 and 46, Yeo teaches displaying the video frames or the reduced video images in the rows as shown in figure 6. Yeo does not teach displaying a graphical representation of a polyhedron, wherein the reduced video image is displayed on one

side of the polyhedron and displaying an additional reduced video image corresponding to a different selected channel on a different side of the polyhedron. However, Humbard teaches an electronic navigator comprising rotatable cubes, wherein each of the rotatable cubes includes graphics or video images from the television programs displayed on a face of the cube. Each cube may represent a specific genre of programs. The faces of the cubes represent specific programs or shows of the channels. See figure 2a-2b; 0024-0027, 0045, 0049. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Yeo by displaying a graphical representation of a polyhedron, wherein the reduced video image is displayed on one side of the polyhedron and displaying an additional reduced video image corresponding to a different selected channel on a different side of the polyhedron as taught by Humbard in order to present information to viewers in a more visually appealing manner.

Regarding claims 41, 44 and 47, Yeo as modified by Humbard further teaches that receiving a user request to rotate the polyhedron to display information corresponding to the different selected channel (e.g., when the user presses arrow key of keys 103 to rotate the cube to display information corresponding to a particular program/show of a particular channel - see Humbard: 0025-0027, 0049); and updating the EPG display by rotating the graphical representation of the polyhedron so that a greater portion of the polyhedron side corresponding to the different selected channel is displayed in the first of the individual image areas (rotating the cube to provide the viewer the face of the cube presenting the selected program/show of the channel - see 0049).

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ngoc K. Vu whose telephone number is 571-272-7306. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ngoc Vu/
NGOC K. VU
PRIMARY EXAMINER
Art Unit 2623

February 21, 2008